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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,206

09/24/2003

Mahesh R. Junnarkar

ITL.0995 (P16440)

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21906

7590

02/28/2006

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EXAMINER

CHIEM, DINH D

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/669,206	Applicant(s) JUNNARKAR ET AL.	
	Examiner Erin D. Chiem	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the argument submitted on December 05, 2005.

Currently claims 1-24 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9-16, 18-20, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Deacon (US Pre-grant Application 2002/0076149 A1). Deacon teaches a channel-switched cross-connect device comprising an arrayed waveguide grating comprising a support structure (Fig. 1; 120), an array of waveguides on one side of said support structure (112, 114, 122, 124), and at least two heaters positioned so as to provide a temperature gradient across said array of waveguides (150, 152). In paragraph [0036] Deacon teaches changing the temperature of the chip, wherein the arrayed-waveguides are formed upon, at different rate; thus providing the temperature gradient across the array of waveguides. The integrated optical chip 100 is a planar light wave circuit. In Fig. 1 element 102 is the bottom of the integrated optical chip 100, and in Fig. 2, the chip assembly is shown making contact with the cooler/heater (212, 214) at the bottom 102, thus meeting the limitation of forming the heaters on the opposite side of the planar light wave circuit. The heaters (212, 214) heat the entire chip 100, thus generally forms in the same configuration as the waveguides and aligned beneath the array of waveguides. Furthermore, Deacon teaches the heaters to be selectively actuatable [0086]. Regarding claim

24, there are two laser waveguide chips (112, 114) butt-coupled together and on chip waveguides (122-124) being exemplary sub-set of the entire array and in Fig. 2 Deacon shows his invention requires only 2 heaters.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 17, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deacon in view of Zah (US Patent 5,612,968) and MacPherson et al. (US Patent 6,096,566).

Deacon teaches an arrayed waveguide grating having an array of waveguides on a support structure and arranging a plurality of heaters to provide a temperature gradient across the array of waveguides wherein the heaters are selectively actuatable.

However, Deacon does not explicitly teach actuatable fuses actuate the heaters and the fuses are actuated by laser, or more simply put, the heaters are actuated by laser fuses.

MacPherson teaches an inter-conductive layer fuse for integrated circuits formed on a silicon substrate. MacPherson teaches in an embodiment of the invention is to utilize laser-configurable fuses wherein a laser beam blows selected fuses to sever the chosen electrical connections (col.2 lines 64 – col. 3. line 11). However, MacPherson lacks the teaching of the application used in optical devices. The Examiner would like to point out that the teachings of the device reads upon the broad method claims of 1-6, and 9.

Zah teaches a redundant multi-wavelength laser arrays wherein the optical waveguides (Fig. 2; 26), typically semiconductor waveguides on board the chip 20 (col. 4, line 24) wherein the selective wavelength is dependent on the connection and non-connection by burning a fuse.

Since Deacon, Zah, and MacPherson are all from the same field of endeavor, the purpose disclosed by Zah and MacPherson would have been recognized in the pertinent art of Deacon.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to recognize MacPherson's teaching of blowing laser fuses on semiconductor wafers and combine the with the teaching of Zah's wavelength selection by selectively connecting the transmission paths through the mean of burning or blowing a fuse and extrapolate the teachings to employ laser fuses to select or "actuate" the desire heater in a plurality of heaters. **The motivation** for employing laser fuses as a mean of actuation is desirable for laser's accuracy. The level of accuracy that laser can provide when selectively disconnect a fuse is highly desired in the art of micro-electronics especially when the entire circuitry is integrated on a chip such as the ones taught by Deacon, Zah, and MacPherson.

Response to Arguments

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., arrayed waveguide grating works like a diffraction grating, the length of any arrayed waveguide may differ from adjacent waveguides by a constant ΔL) are not recited in the rejected claim 1. Although the claims are interpreted in light of the specification, limitations from the specification

are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin D Chiem
Examiner
Art Unit 2883

A handwritten signature in black ink, appearing to read "Frank G. Font". The signature is stylized with a large, looped "F" and a cursive "Font".

Frank G. Font
Supervisory Primary Examiner
Technology Center 2800